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VITAMIN D DEFICIENCY HIGHLY PREVALENT AMONG POST-MI PATIENTS

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Background: 25-hydroxyvitamin D (25(OH)D) deficiency is a treatable condition that has been associated with coronary artery disease and many of its risk factors. A possible time to assess for 25(OH)D deficiency, and to initiate treatment, is at the time of an acute myocardial infarction (AMI). The prevalence of 25(OH)D deficiency and the characteristics associated with it among AMI patients are unknown.

Methods: We assessed 25(OH)D in 239 subjects enrolled in a prospective MI registry (TRIUMPH) from 20 US hospitals. Patients enrolled from 6/1/08 - 12/31/08 had serum samples sent to a centralized lab for analysis by the DiaSorin 25(OH)D assay. We classified patients with 25(OH)D ≤ 20 ng/ml as deficient, < 30 and >20 ng/ml as insufficient, and those with levels ≥30 ng/ml as normal. The relationship between Vitamin D levels and other patient characteristics were analyzed with the Mantel-Haenszel trend test and multivariable linear regression.

Results: Of the 239 enrolled patients, 179 (75%) were deficient and 50 (21%) were insufficient in 25(OH)D; leaving only 4% of the population having normal levels. When comparing 25(OH)D deficient patients with those who were insufficient or normal, there were no differences by age and gender. However, there were a significantly greater proportion of 25(OH)D deficient patients who were non-Caucasian (29.1% v 15%: p=0.031), had lower social support (18% v 5%: p=0.015,)no insurance (24% v 10%: p=0.026), diabetes mellitus (31% v 17%: p=0.035), and who had lower levels of physical activity (79% v 57%: p=0.007). Higher PTH levels (45.3, 32.7; p=0.029) and BMI (31.2, 29.0; p=0.025) were also associated with 25(OH)D deficiency, as well as current smoking (42% v 25%: p=0.022).

Conclusions: Vitamin D deficiency is present in a majority of AMI patients in a multi-center US cohort. Screening and treatment should be considered to correct this common vitamin deficiency and investigated as a potential means of further improving AMI patients' cardiovascular risk factors and outcomes.